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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/928,503	08/14/2001	Santiago Rodriguez	10014545-1	8089

7590 03/18/2005
HEWLETT-PACKARD COMPANY
Intellectual Property Administration
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EXAMINER

LEE, TOMMY D

ART UNIT PAPER NUMBER

2624

DATE MAILED: 03/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/928,503

Applicant(s)

RODRIGUEZ, SANTIAGO

Examiner

Thomas D. Lee

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-9 and 12-15 is/are rejected.
- 7) ☒ Claim(s) 4-6, 10, 11 and 16-20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20030326.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2 and 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 4,709,250 (Takeuchi).

Regarding claims 1 and 2, Takeuchi discloses a method for correcting a halftone pulse width count, the method comprising: determining the halftone pulse width count (pulse width modulation signal having width T3 utilized as reference modulation signal, another pulse width may be used as reference if pulse width thereof is shorter than the pulse width for one picture element of a black level modulation signal (column 3, line 54 – column 4, line 22)); determining a halftone level (surface potential of scanned photosensitive member detected (column 4, lines 46-51)); and calculating a corrected halftone pulse width count based on the halftone pulse width count and the halftone level (modulation pulse width for forming halftone image selected in response to detected surface potential and reference pulse width modulation signal (column 4, lines 51-55; column 4, line 63 – column 5, line 58)). At least one of the halftone pulse width count, the halftone level and the corrected halftone pulse width count may be determined for one or more of a pixel, a line, a page, a print job, and a useable lifespan of a toner cartridge (operation of control mode for determining corrected halftone pulse

width count (Fig. 3) may be performed between adjacent paper feedings (column 6, lines 14-26)).

Regarding claims 12-15, Takeuchi discloses an apparatus for counting a halftone pulse width count comprising: a processor system configured to determine the halftone pulse width count for one or more pixels within a print job, wherein the processor system is further configured to determine a halftone level for the one or more pixels and wherein the processor system is further configured to calculate the corrected halftone pulse width count based on the halftone pulse width count and the halftone level (CPU 20 (Fig. 1) controls determination of a corrected pulse width count as set forth above(column 4, lines 31-59)). The processor system comprises at least one processor associated with one or more of a PC, a print spooler, a printer and a network component, the processor system an application specific integrated circuit contained within the printer (CPU 20 inherently comprising application specific integrated circuitry, associated with an image forming apparatus (Fig. 1)). The processor is further configured to determine a pulse width count for one or more substantially solid pixels within a print job (noting Fig. 4, period q is a black level image portion of one picture element, and s is a black level image portion of three picture elements (column 6, lines 39-53)).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi.

Takeuchi does not disclose a computer readable medium on which is embedded computer software capable of automatically correcting a halftone pulse width count by performing the steps of above-rejected claims 1 and 2. However, it is well known in the art that any imaging process that uses a CPU is capable of receiving a software program within a computer readable medium for performing the imaging process, thereby enabling a user to perform the process on a computer, without the need for specific processing hardware. Therefore, it would have been obvious for one of ordinary skill in the art to provide computer software in a computer readable medium for automatically performing the steps recited in the rejected claims.

5. Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi in view of U.S. Patent 5,617,216 (Wada).

Takeuchi does not disclose the use of one or both of a statistical regression equation and a lookup table for the calculating step, as recited in claims 3 and 9. Wada discloses a method whereby a pulse width in a lookup table is generated on the basis of a gradation value of an objective pixel (column 5, lines 4-16). The use of a lookup table provides a less complicated means for obtaining a pulse width by eliminating the need for performing mathematical operations necessary in Takeuchi for determining the corrected halftone pulse width count. Therefore, it would have been obvious for one of ordinary skill in the art to provide a lookup table, such as disclosed in Wada.

Allowable Subject Matter

6. Claims 4-6, 10, 11 and 16-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: No prior art has been found to disclose or suggest a lookup table based on the statistical regression equation, used in the step for calculating a corrected halftone pulse width count based on the halftone pulse width count and the halftone level, as recited in claims 4 and 10, or the combined steps of determining a pulse width count and calculating a toner usage value based on the pulse width count and the corrected halftone pulse width count, as recited in claims 5, 11 and 16. Claim 6 and 17-20 depend from claims 5 and 16, respectively.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 5,999,704 (Hirao) discloses an image output apparatus, wherein a pulse width is controlled according to image type (character, binary graphical type with consecutive or isolated dots).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas D. Lee whose telephone number is (703) 305-4870. The examiner can normally be reached on Monday-Friday (7:30-5:00), alternate Fridays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (703) 308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thomas D. Lee
Primary Examiner
Art Unit 2624

tdl
March 17, 2005